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ACTIVITY OF THE INTERNATIONAL INSTITUTE OF AGRICULTURE

Permanent Committee of the Institute. — The Permanent Committee met on October 10, 1941 for its Autumn session. Baron Giacomo Acerbo, Delegate of Italy and President of the Institute was chairman. The meeting was attended by the official delegates of the following countries: Germany, Argentina, Brazil, Bulgaria, Chile, Colombia, Denmark, Spain, Finland, Hungary, Iran, Eire, Italy and Italian Colonies, Japan, Paraguay, Peru, Portugal, Romania, Saint Marin, Switzerland, Turkey, Uruguay and Venezuela. After expressing the warmest thanks on behalf of the Institute to Mr. J. Clyde Marquis, former delegate of the United States, who for six years held his position with great competence and constant zeal, the Committee proceeded to the election of its new Vice-President for a period of three years, according to the Institute statutes. The unanimous vote of the Committee fell on Dr. Guido Comolli, Delegate of the Argentine Republic. The President, Baron Acerbo, and the Dean of the Permanent Committee, Mr. Bilbao, Delegate of Spain, greeted the newly elected Vice-President and expressed to him the best wishes of the Committee. Both speakers emphasized the fact that the choice of the Committee had been suggested by the recognition of the high merits of the Argentine Delegate and the value which the Institute attaches to the collaboration of Argentina, the great South American country whose role in world economy is destined to become ever more important. In his reply, Dr. Comolli said that he greatly appreciated these expression of estimation for his work and the Committee's wishes for the prosperity and progress of his country. He assured the Permanent Committee that Argentina, as a great agricultural center, was keenly interested in the activities of the International Institute of Agriculture. He added that he is absolutely sure that the Institute will continue to deserve the consideration it has enjoyed until now, and that its work will successfully be carried on, especially in view of the coming period of economic recovery.

In the course of the meeting administrative and scientific questions which are deeply connected with the Institute life, were brought up and discussed. Several Delegates called the Committee's attention on the pamphlet on "Some Aspects of the Activities of the International Institute of Agriculture, 1905-1940" at present published only in French by the Institute. This pamphlet contains the first concise exposition of all the work accomplished by the Institute since its foundation.

The Permanent Committee took notice with great satisfaction of the policy followed by the Administration, as clearly shown in the General Secretary's report, which may be thus summarized: to make the full efficiency of all services absolutely sure and to continue the issuying of the Institute publications in spite of difficulties of whathever sort. On this point, the Committee on Publications furnished the Permanent Committee some very interesting information. During the period between April 26 and October 1, namely within a period of 118 workable days, the Institute issued 120 publications, of which 65 are periodicals, representing over 7100 pages of text.

The new Hungarian Delegate in the Permanent Committee of the Institute. — Baron Villani, former Hungarian Minister Plenipotentiary in Rome, has been appointed by the Hungarian Government as the Delegate of Hungary in the Permanent Committee of the International Institute of Agriculture in the place of Mr. Tibor de Péchy, who died in January 1941.

Baron Villani attended the October session of the Permanent Committee, in whose name the President of the Institute, Baron Acerbo, gave him a most cordial welcome, mentioning the collaboration given by Hungary to the Rome Institute.

BOOKS PRESENTED TO THE LIBRARY OF THE INTERNATIONAL INSTITUTE OF AGRICULTURE

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Battista, G. Premesse all'economia nuova. Bologna, N. Zanichelli, 1940. 127 p. (Raccolta di scritti a cura dell'Istituto di politica economica e finanziaria della R. Università di Roma).

Baur, G. Neuzeitlicher Getreidebau. Stuttgart, E. Ulmer, 1937. 112 p. (Schriften über neuzeitlichen Landbau. Hft. 7).

Bernardini, L. La biochimica nell'industria del tabacco. Roma, Tip. F. Centenari, 1941. (Ente nazionale per il tabacco). v. 1. La foglia raccolta dal campo.

Bünger, H. Die Verwendung von Holzzucker in der Schweinemast; Untersuchungen und Versuche auf Veranlassung und mit Unterstützung der Deutschen Rentenbank-Kreditanstalt (Landwirtschaftliche Zentralbank) Berlin, ausge-

INTERNATIONAL BULLETIN
OF PLANT PROTECTION

1941 No. 11

DISCOVERIES AND CURRENT EVENTS *

GERMANY.

New Blight-Resistant Potato Varieties †

Among the five potato varieties recently authorized for cultivation in Germany, there are three which are resistant to the potato blight (*Phytophthora infestans*). These new varieties enjoy protection not only against all fungus races, but also against the biotypes of group *A*, the most common in Germany. The varieties in question are ' Erika ', produced by the ' Ragis ' Association; ' Frühnudel ' obtained by the plant breeder von Wiese at Knehden, and ' Robusta ', created by the plant breeder von Pfetten at Niederarnbach. The ' Frühnudel ' is a yellow cooking potato; the ' Erika ' and ' Robusta ' varieties belong to the industrial type, having a high starch content. Thus a problem which has been studied for almost a century by plant breeders has been solved, at least to an important extent in practical agriculture.

The three new varieties were obtained by crossing cultivated varieties with the ' W ' varieties of the Biologische Reichsanstalt für Land- und Forstwirtschaft. The ' W ' varieties originate from South American primitive forms imported and continually improved by this Institute since 1912. These have conferred to the cultivated varieties not only resistance to the *A* group of biotypes comprising the chief races of *Phytophthora* found in Central Europe, but also transmitted to them genes new to European potatoes, guaranteeing high yields. This is the reason for the heavy harvests obtained from these new varieties, ' Erika ' and ' Frühnudel ' in particular.

RUMANIA.

Wheat Rusts and Wheat Scald during the Year 1940 (*concluded*) §

II. — Scald.

As regards quantity and quality, 1940 was a poor wheat year, weight per hectolitre being under 80 kg. Though some grains weighed 75-78 kg. per hl., the majority, however, weighed less, in some regions as little as 70 kg. and even

* Under this and the next heading the countries are arranged in French alphabetical order.

† Communication from Dr. K. Snell, Oberregierungsrat, transmitted by Dr. E. Riehm, Oberregierungsrat, President of the Biological Service of the Reich for Agriculture and Forestry, Berlin-Dahlem, Germany, official Correspondent of the Institute.

§ Communication from the official Correspondent of the Institute, Mr Traian Săvulescu, Professor at the Faculty of Agronomy, Chief of the Phytopathological Section, Institute of Agricultural Research of Rumania, Bucharest, Rumania.

less. Quantitative production amounted to 755 kg. per hectare in the Danubian Plain, in Moldavia and in middle and north Bessarabia.

Owing to its inferior quality, the problem of the valorization of the wheat came up against serious difficulties and caused the State considerable expense in assisting the farmers.

Many farmers wonder what are the causes for the quality of Rumanian wheat in 1940 being so inferior, with such a low weight per hectolitre and a small and wrinkled grain.

In the following, an endeavour will be made to clear up the question.

As was said in the beginning, it is not a question of one but several causes. Each of these causes contributed to a decrease in the quantity of nutrients and, in particular, the carbohydrates contained in the grain resulting in wheat scald.

The consequences of this physiological disorder are that the grain remains small, does not accumulate a sufficient quantity of starch and shrivels.

To explain better this scald process, it may be recalled that up to maturity the wheat passes through four important stages:

(*a*) Milky stage. — At this moment the endosperm takes on a milky consistency due to the abundant transport of carbohydrates while the leaves and stalks are still green.

(*b*) Yellow stage. — At this period the wheat crop presents a homogeneous yellow colour, the endosperm looses its milky consistency and looks like thick glue, so that when the seed is pressed between the fingers it yields like a soft paste.

(*c*) Fully ripe stage. — At this period the grain separates from the peduncles and the glumes. The period of transition between the yellow stage and the fully ripe stage lasts three days if the weather is warm and dry.

(*d*) Overripe stage. — At the postmature stage the grain has lost a considerable quantity of water, has become dry and has the characteristic aspect and hardness of ripe wheat.

For the transport and accumulation of formative substances and, in particular, starch, in the grain to be normal, the four phases must succeed each other regularly according to a constant index of progression. Any disturbance in this regular succession has a harmful effect on the formation of the grain. When the phenomenon of scald takes place, the excessive heat during the period of the milky stage (month of June) causes not only the premature drying-up of the grain which loses much water, but also the premature withering of the last internode of the stalk.

Because of this the reserve substances are no longer synthesized and consequently can no longer be transported to the grain which remains small, light and shrivelled. This was the case in the previous year (1939).

Many farmers in areas where there was an abundant rainfall before the wheat ripened believe and affirm that the wheat was 'washed away' by the rains. They certainly are right but only in those cases when the abundant rainfall was immediately followed by excessive heat, the wheat being at the milky stage. Under these circumstances the phenomenon of scald is manifested resulting in severe

losses. The loss in weight of the affected grain may be as much as 40 per cent of the normal weight and the quality of the wheat is lowered by 10-15 per cent.

Scald causes other damage to the grain ; the tegument of the grain may crack especially near the embryo which sometimes is also damaged. In general, seed affected with scald germinates normally, but the seedlings are small, weak, with stunted roots and frequently do not tiller. If autumn conditions are favourable, the seedlings may improve, but if the autumn is dry, many die off leaving bare patches in the field ; during the winter, these plants are easily killed by frost.

Owing to the cracks in the tegument, the shrivelled grain is attacked by the solutions and powder preparations used in the control of wheat rot and, in particular by those containing copper sulphate and formaldehyde.

The phenomenon of scald may be aggravated by the intervention of two other concomitant phenomena, *viz.* : lodging and wheat rusts.

When the weather is very wet before the wheat ripens, as was the case in 1940 in many parts of the country, the plants are unable to form their mechanical support tissue although they appear to be growing vigorously. Consequently the wheat is easily lodged by wind and rain. The resistance of wheat to lodging depends on a series of factors : some are peculiar to the plant itself and are subject to laws of heredity, varying from one strain to another ; others depend on climatic and soil conditions and cultivation technique.

Lodging does not always mean a loss ; if it occurs after the milky stage, the wheat is not affected and production does not fall. There is even a popular saying ' when the wheat falls the farmer prospers '. If lodging takes place at the milky stage and if, immediately after, heat and drought become excessive, the phenomenon of scald is much more marked in cereals which have been subjected to lodging. This was the case in 1939 in certain localities of Oltenia and in some districts of the Departments of Teleorman, Argeș, Dâmbovița and Prahova and in 1940 in the Danubian Plain, Dâmbovița and Moldavia and in the greater part of Bessarabia.

Another factor which causes intensification of the phenomenon of wheat scald is rust attack. It is definitely known that scald can take place independently of rust attack, but when rusts and, in particular black rust, intervene, losses rise to a disastrous extent as was the general case in 1932 as well as in 1939 in certain regions of the country ; along the Subcarpathian Hills, between Ploești and Buzau and in the Tara Bârsei, and in 1940, in the Danubian Plain, in Moldavia and in the greater part of Bessarabia.

Some farmers insufficiently informed affirmed that the wheat losses in 1940 were caused exclusively by rusts. We will now explain the form rust attack took in 1940 and also the damage caused in the different regions of the country.

In the regions where rust attack was the most severe, the phenomenon of scald due to physiological causes, was very marked and losses in wheat were as much as 50-70 per cent of the normal production. Wheat infested with rust and subjected to the excessive heat which followed the rainy period lost a much

greater quantity of water than healthy or slightly attacked grain and the nutrient substances of the leaves, stalks and grains were to a large extent consumed by the parasite.

Briefly, the poor crop in 1940 as also the poor quality of the wheat were due to physiological causes which brought about the phenomenon of scald, to which were added rust infestation, in particular black rust. The phenomenon of scald was more marked in regions where the rains caused lodging and where the wheat was caught by the excessive heat in the milky stage and also in the regions where the cereal was badly attacked by black rust.

The phenomenon of scald was more or less general; it showed, however, even in the same locality, an intensity varying according to the strain cultivated and the cultivation technique employed. The spring varieties ('Ulca', 'Arnaut') suffered more than the autumn varieties, late wheats more than early wheats; although there is no direct relation between the earliness of wheat and resistance to scald; *Triticum ferrugineum* suffered more than *T. erythrospermum*; awned wheat more than unbearded wheat; populations more than selected lines.

Among the selected lines of autumn wheat, 'American 15,' 'American 26,' 'Tighina 483,' 'Kooperatorca,' 'Hostianum' (I. A. C. R. 4) were found to be the more resistant to scald. It should be pointed out that no wheat strain entirely resistant to scald has as yet been found, but the research work of plant-breeders is being directed along these lines and it is to be hoped that their methodical and systematic work will lead to the solution of this important problem in wheat-growing especially in the steppe region.

The wheat suffered less when a good cultivation technique was employed: summer ploughing followed in the autumn by surface ploughing, balanced quantities of seed per hectare, sowing carried out at the right time (end of September) and where there was no weed infestation.

Examining the causes of the very inferior quantity and quality of the 1940 wheat crop, the following practical conclusions may be drawn:—

(1) Unselected wheats should be replaced by pure lines.

(2) Selected wheat strains should be adapted to the different regions of the country; these strains should be established by the Institute for Agricultural Research of Rumania and indicated in the chart published by this Institute.

(3) The best wheats for Rumania with its extreme continental climate are not those giving high yields but those which are most resistant to cold, drought, scald and rusts.

For example, 'American 15' which has been so successful is not remarkable for its productivity, but chiefly for its resistance to inclement weather and diseases, assuring a balanced and consequently profitable production for a series of years.

(4) Cultivation operations (ploughing, harrowing, weeding, rotation) indicated by experimentation, should be strictly carried out and imposed on recalcitrant growers. In particular, special attention should be given to the uprooting of weeds which have again began to invade the fields.

(5) The Ministry of Agriculture with the assistance of the provincial organizations and local administrations should continue without cease the campaign for the destruction of the barberry (*Berberis vulgaris*) which in certain regions of the country (Prahova Valley, Carpathian Hills, Siret Valley, Danube Delta, etc.) forms veritable thickets.

The farmers do not realize the importance of the measure for the protection of wheat crops against black rust.

(6) Finally, for autumn sowing following scald years, it is recommended that a larger quantity of seed than usual per hectare be distributed in order to avoid eventual losses during germination and also those due to the dying off of weak seedlings through frost.

LEGISLATIVE AND ADMINISTRATIVE MEASURES

Germany. — A Circular of May 11, 1941 defines what is meant by economic and industrial crop farming ('hochwertiges Handelsgewächs'), open land farming ('Freilandspflanzung') and measure of customary protection ('übliche Schutzvorrichtung'), terms of great importance when it is a question of paying or otherwise an indemnity to the farmer having suffered damage through game. (*Nachrichtenblatt für den Deutschen Pflanzenschutzdienst*, Berlin, Anfang Juli 1941, 21. Jahrg., Nr. 7, S. 55-56).

*** A Decree of June 24, 1941 protracts hunting of the blackbird up to January 31, 1942. (*Ibid.*, Anfang August 1941, Nr. 8, S. 60).

*** An Ordinance dated June 28, 1941 introduces into the territory of the Government General provisions relative to the control of the diseases and pests of fruit crops analogous to those established by Decree of October 29, 1937 [see this *Bulletin*, 1938, No. 5, pp. 100-101]. (*Amtliche Pflanzenschutzbestimmungen*, Berlin, 1. August 1941, Bd. XIII, Nr. 6, S. 247).

Germany (Alsace). — A Decree of May 29, 1941 introduces into Alsace regulations analogous to those established by the Decree of July 1, 1938 relative to the control of the musk rat (*Fiber zibethicus*) [see this *Bulletin*, 1938, No. 12, p. 270]. (*Amtliche Pflanzenschutzbestimmungen*, Berlin, 1. August 1941, Bd. XIII, Nr. 6, S. 230-231).

*** Another Decree dated May 29, 1941 relative to the Colorado beetle [*Leptinotarsa decemlineata*] adopts measures analogous to those laid down for the Reich by Decree of April 22, 1941 [see this *Bulletin*, 1941, No. 10, pp. 186-187]. (*Nachrichtenblatt für den Deutschen Pflanzenschutzdienst*, Berlin, Anfang Juli 1941, 21. Jahrg., Nr. 7, S. 56).

Germany (Protectorate of Bohemia and Moravia). — By Notification No. 463 of February 24, 1941, the Minister of Agriculture publishes a list of the localities considered as ' prohibited zones ' owing to the actual, suspected or close presence of the potato wart disease (*Synchytrium endobioticum*).

The export of potatoes and potato trash from prohibited to unprohibited zones is interdicted. The introduction of potato varieties non-resistant to wart disease into the prohibited zones is also interdicted. The cultivation of potato varieties other than those resistant to wart disease is prohibited. (*Amtliche Pflanzenschutzbestimmungen*, Berlin, 1. August 1941, Bd. XIII, Nr. 6, S. 248).

*** Decree No. 227, dated March 6, 1941, modifying Decree No. 133 of February 22, 1940 relative to the control of the potato wart disease (*S. endobioticum*) [see this *Bulletin*, 1940, No. 9, p. 166], establishes that railway trucks having been used for the transport of potatoes cultivated in a prohibited zone shall be disinfected with a solution of formaldehyde.

Beginning from March 1, 1945, the cultivation of potato varieties other than those resistant to wart disease will be prohibited. (*Ibid.*, S. 249).

*** By Decree No. 213 of April 30, 1941, relative to the control of grape phylloxera [*Dactylosphaera vitifolii*], the import and transit of vines and parts of vines (shoots, leaves, compost containing vine trash, etc.) are prohibited. This veto also applies to living phylloxera insects in any stage of development, as well as to all stakes, espaliers, etc. used in wine-growing.

The import and transit of grapes and grape marc are authorized provided that special precautions are taken against phylloxera. The regulations to be observed on the question are explained in detail. (*Ibid.*, S. 250-251).

Germany (Lorraine). — A Decree of May 8, 1941 relative to the control of the Colorado beetle [*Leptimotarsa decemlineata*] comprises provisions analogous to those adopted on the question in the Reich according to the Decree of April 22, 1941 [see this *Bulletin*, 1941, No. 10, pp. 186-187]. (*Nachrichtenblatt für den Deutschen Pflanzenschutzdienst*, Berlin, Anfang August 1941, 21. Jahrg., Nr. 8, S. 60).

Germany (Prussia). — With a view to facilitating the control of the potato eelworm [*Heterodera schachtii*] in certain communes of the Schleswig District, a Decree of April 28, 1941 orders that in all agricultural and horticultural land measuring under 1000 m² notices shall be posted indicating the name and address of the usufructuary.

This provision does not apply to gardens and other land adjacent to habitations. (*Amtliche Pflanzenschutzbestimmungen*, Berlin, 1. August 1941, Bd. XIII, Nr. 6, S. 228-229).

*** A Decree dated April 29, 1941 relative to the control of scab [*Venturia*] requires the proprietors and usufructuaries of pip-fruit trees in Coblenz District to treat these trees with three sprayings: the first with Bordeaux mixture before

flowering, that is when the buds open; the second, with Bordeaux mixture or lime sulphur wash immediately after flowering when most of the petals have fallen; the third with lime sulphur wash two to five weeks after flowering.

The aforesaid mixtures or washes may be substituted by other means of control recognized as effective by the Plant Protection Service.

For the protection of bees, the spraying of open flowers is prohibited. Fruit trees placed less than 50 m. away from a beehive may only be sprayed in the evening when the bees have returned to the hive, or else in the morning before the bees come out; the beekeeper should be advised before spraying. (*Ibid.*, S. 227-228).

Germany (Saxony). — The Decree dated May 22, 1940 relative to the control of asparagus rust [*Puccinia asparagi*, see this *Bulletin*, 1940, No. 11, p. 215] has been suspended, owing to war conditions, for the duration of the year 1941. (*Amtliche Pflanzenschutzbestimmungen*, Berlin, 1. August 1941, Bd. XIII, Nr. 6, S. 251).

Belgium. — By Decree of August 29, 1941 the provisions of the Decree, dated May 15, 1941 relative to the destruction of sparrows [see this *Bulletin*, 1941, Nos. 7-8, p. 143] are prorogated up to September 15 inclusive. (*Moniteur Belge*, Bruxelles, 1er-2 september 1941, nos 244-245, p. 5854).

Colombia. — Decree No. 671 of April 3, 1941 comprises measures for the improvement and sanitary protection of crops in the banana zone of Santa Marta, Magdalena Department. (*Diario Oficial*, Bogotá, 22 de abril de 1941, año LXXVI, núm. 24641, pág. 252).

*** By Decree No. 691 of April 15, 1941 has been created and attached to the Ministry of National Economy, the technical Agricultural Board. The Chief of the Plant Protection Service has been called upon to take part in the said Board. (*Ibid.*).

France. — A Ministerial Decree passed at Paris on February 18, 1941 establishes that the cultivation of potatoes in gardens or isolated plots is only authorized for early varieties, the list of which is decreed by the Director of Agricultural Services. The digging-up of the potatoes grown under these conditions will be carried out on a date fixed by the Director of Agricultural Services.

The cultivation of potato varieties other than those indicated in the aforesaid list is only authorized in fields or allotments designated beforehand by the mayor of the parish. The sites will be determined in such a way that the crops, for each district, will be grouped in a very small number of localities.

The lay-out of the fields suggested by the mayor will be submitted beforehand for approval to the Director of Agricultural Services who may make any modifications he may consider necessary.

Because of the insecticidal treatments which have to be given, the cultivation of potatoes together with other food crops for man and livestock is prohibited.

All growers of potatoes are required to search for the eventual presence of the Colorado beetle [*Leptinotarsa decemlineata*] on their crops.

As soon as any grower ascertains the presence of the Colorado beetle, he must advise the mayor who will notify the Director of Agricultural Services immediately on the first discovery.

All growers of potatoes must destroy the eggs, larvae and adults as soon as they appear on their crops, first by thorough collecting by hand, then by arsenical treatments.

The mayor, with the assistance of the Association for plant protection, organizes control measures in the parish. To this end, he will form prospection and collection squads which must work at least one afternoon a week, beginning from the first discovery of the insect or, at the latest, from May 15. These squads will be composed of all interested parties, unemployed and schoolchildren.

All potato fields must be thoroughly inspected each week. Adult insects, egg-masses and larvae will be collected and carefully destroyed. This operation should be continued up to June 15.

All potato crops must be given at least two sprayings of washes of lead arsenate, lime or alumina. Late varieties should be given three treatments. If serious infestation occurs, the grower is required to carry out supplementary treatment.

The dose of the arsenate preparation will vary according to the arsenic content of the product selected; the minimum quantity will be 1 kg. per hectolitre water for diplumbic arsenic containing 11 per cent. arsenic, or 500 g. for calcium arsenate having 25 per cent. arsenic.

Insecticidal dusts in place of sprayings are only authorized in cases determined beforehand by the Director of Agricultural Services.

In each parish, the mayor, assisted by the president of the Association for the control of crop pests (or the Colorado beetle), must ascertain, in agreement with the Director of Agricultural Services, that the necessary quantities of insecticides and sprayers indispensable for control operations will be available and close at hand to the farmers in good time. (*La Pomme de Terre Française*, Lille, juin 1941, 4ème année, nº 24, p. 6-7).

*** Another Ministerial Decree passed at Vichy on April 3, 1941 renders the control of the Colorado beetle compulsory throughout the territory. (*Ibid.*, p. 7).

*** An Interministerial Decree also passed at Vichy on April 4, 1941 regards the working expenses of the Associations for the control of crop pests. (*Ibid.*).

Italy. — By Law No. 924 of July 25, 1941, has been transformed into Law the Royal Decree-Law No. 412 dated May 15, 1941 modifying the customs duties on potassium and sodium cyanides [see this *Bulletin*, 1941, No. 9, p. 164). (*Gazzetta Ufficiale del Regno d'Italia*, Roma, 11 settembre 1941, anno 82º, n. 215, p. 3596).

*** By Law No. 1042 of July 25, 1941 has been transformed into Law, with modifications, the Royal Decree-Law No. 230 dated April 11, 1941 relative to the production of citric acid for the preparation of anticryptogamic products [see this *Bulletin*, 1941, No. 6, p. 119]. (*Ibid.*, 2 ottobre 1941, n. 233, p. 3912).

Morocco (French Zone of). — The Dahir of November 21, 1940 (20 chaoual 1359) modifying the Dahir of December 17, 1935 (20 ramadan 1354) [see this *Bulletin*, 1936, nº 5, pp. 107-108] establishes that Art. 1 of this last Dahir is to be modified as follows: 'Syndical Associations may be formed for the permanent control of plant parasites, such as are defined in Art. 1 of the Dahir of September 20, 1927 (23 rebia I 1346) [see this *Bulletin*, 1936, No. 5, p. 108] regulating the supervision of the health conditions of crops in the French Zone of the Sherifian Empire'. (*Bulletin Officiel*, Rabat, 3 janvier 1941, XXXº année, nº 1471, p. 4).

*** Vizirial Decree of November 21, 1940 (20 chaoual 1359) abrogates the Vizirial Decree dated March 17, 1936 (23 hija 1354) [see this *Bulletin*, 1938, No. 8, p. 179] enumerating the plant parasites for the control of which syndical associations may be formed. (*Ibid.*, p. 11).

*** A Decree of the Director of Waters and Forests, dated December 24, 1940, authorizes the destruction of rabbits causing damage in various regions of the French Zone of the Sherifian Empire. (*Ibid.*, 10 janvier 1941, nº 1472, p. 31).

*** Another Decree of the same Director, dated January 9, 1941, authorizes the destruction of rabbits causing damage to crops and plantations in certain zones of the post of civil control of Sefrou (Fès). (*Ibid.*, 24 janvier 1941, nº 1474, p. 73).

*** A Decree of the Director of Agricultural Production, Trade and Supplies, dated January 13, 1941, fixes the fee for cost of fumigating plants or plant products intended for export. (*Ibid.*, p. 72-73).

*** Two Decrees of the same Director dated February 22, 1941, establish, *inter alia*, that all consignments of dried figs and raisins presented to the technical examining board for the export of Moroccan products, must be accompanied by a fumigation certificate issued by the district plant protection inspector, who will have seen to the execution of fumigation operations; this officer must also seal each consignment, (*Ibid.*, 28 février 1941, nº 1479, p. 225-226).

*** A Decree of the same Director, dated May 15, 1941, empowers the establishment of the Tamelelt Syndical Assocition for the control of plant parasites [see this *Bulletin*, 1941, No. 10, p. 189]. (*Ibid.*, 6 juin 1941, nº 1493, pp. 643-644).

*** A Vizirial Decree of May 17, 1941 (20 rebia II 1360) modifies the Vizirial Decree of May 17, 1933 (22 moharrem 1352) [see this *Bulletin*, 1933, No. 9, p. 207] fixing the rate of the fee for the cost of sanitary inspection for the import of plants, parts of plants or plant products into the French Zone of the Sherifian Empire. (*Ibid.*, 13 juin 1941, nº 1494, p. 654).

*** A Decree of June 20, 1941 provides that the inspection certificates relative to consignments of fresh vegetables and alimentary floury substances other than those which have to conform to a certain standard, as well as the certificates appliable to consignments of truffles, beets and mushrooms, must state *inter alia*, that the merchandise inspected is free from internal or external living parasites, defects or diseases damaging their presentation or conservation. (*Ibid.*, 11 juillet 1941, nº 1498, p. 724-725).

*** By Decree of the Director of Agricultural Production, Trade and Supplies, dated July 4, 1941, the disinfection of export consignments of potatoes attacked by the potato moth [*Phthorimaea operculella*] is rendered compulsory.

Disinfection will be carried out according to the conditions established by Decree of January 13, 1941 [see above] fixing the tariff for fumigation costs of plants or plant products intended for export. (*Ibid.*, 18 juillet 1941, nº 1499, p. 753).

*** A Decree of the Director of Agricultural Production, Trade and Supplies, dated August 2, 1941, gives application to the Resident's Decree of April 7, 1941 regulating the production of seed potatoes in Morocco and trade in said seed potatoes.

Potatoes of Moroccan origin, transported, put up for sale, sold or ceded for the purpose of seed should, *inter alia*, be obtained from crops exempt from degenerative symptoms. (*Ibid.*, 22 août 1941, nº 1504, p. 863-864).

*** By Decree dated August 4, 1941, the French Zone of Morocco is declared invaded by the desert locust [*Schistocerca gregaria*]. (*Ibid.*, p. 864).

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